

What is claimed is:

1. Hexaboride particles comprising particles of
a hexaboride of at least one element (X) selected from
5 Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb,
Lu, Sr and Ca, wherein;

the surfaces of said hexaboride particles have
physically been coated with a surface treatment agent
containing silicon, selected from a silazane type
10 treatment agent, a chlorosilane type treatment agent,
an inorganic treatment agent having at least one
alkoxyl group in the molecular structure, and an
organic treatment agent having at least one alkoxyl
group at a molecular terminal or in the side chain, or
15 have been coated with the surface treatment agent,
having chemically combined with hexaboride particles
on the surfaces of the hexaboride particles.

2. The hexaboride particles according to claim 1,
20 which are obtained by mixing hexaboride particles
having not been coated with the surface treatment
agent, the surface treatment agent and a solvent with
stirring, subjecting the resultant mixture to
dispersion treatment to obtain a fluid dispersion, and
25 removing the solvent from the fluid dispersion by
evaporation, followed by heating and drying and

thereafter pulverization.

3. The hexaboride particles according to claim 1, wherein said hexaboride is lanthanum hexaboride.

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4. The hexaboride particles according to claim 1, wherein said hexaboride particles have particle diameters of from 10 nm to 10 μ m.

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5. The hexaboride particles according to claim 1, wherein said surface treatment agent is in a proportion of from 0.01 part by weight to 100 parts by weight based on 1 part by weight of the hexaboride particles in terms of the silicon contained in the surface treatment agent.

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6. An article making use of hexaboride particles which comprises a substrate and layered directly on the surface thereof the hexaboride particles according to any one of claims 1 to 5, to compose an article having a coating film of the hexaboride particles.

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7. A dispersion of hexaboride particles which comprises the hexaboride particles according to any one of claims 1 to 5 which stand dispersed in a liquid medium or a solid medium.

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8. The dispersion of hexaboride particles according to claim 7, wherein said liquid medium comprises at least one of an organic solvent and water,
5 or comprises at least one of an organic solvent and water in which at least one of a resin and a metal alkoxide has been dissolved or dispersed.

9. The dispersion of hexaboride particles
10 according to claim 7, wherein said solid medium comprises resin or glass.

10. The dispersion of hexaboride particles according to claim 7, wherein the dispersion in which
15 said hexaboride particles stand dispersed in a solid medium composes a coating film formed on the surface of a substrate.

11. The dispersion of hexaboride particles
20 according to claim 7, wherein the dispersion in which said hexaboride particles stand dispersed in a solid medium composes a film of 0.1 μm or more to a board of 50 mm or less in thickness.

25 12. The dispersion of hexaboride particles according to claim 7, wherein the dispersion in which

said hexaboride particles stand dispersed in a solid medium has been subjected to pulverization treatment to compose a powder.

5 13. The dispersion of hexaboride particles according to claim 12, wherein the powder obtained by pulverization treatment has particle diameters of from 10 nm to 10 μm .

10 14. An article making use of the dispersion according to claim 10 or 11.